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09/769,376	01/26/2001	Nobuyoshi Yagi	Q62053	5759
7590	08/23/2005		EXAMINER	
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			DICUS, TAMRA	
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			1774	

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/769,376  
Filing Date: January 26, 2001  
Appellant(s): YAGI ET AL.

**MAILED**  
AUG 23 2005  
**GROUP 1700**

John K. Shin  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 07-06-05.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Claimed Subject Matter***

The summary of the claimed subject matter contained in the brief is correct.

**(6) *Ground of Rejection to be Reviewed on Appeal***

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

The 112 2<sup>nd</sup> paragraph rejection is withdrawn due to Appellant's arguments that the surface roughness is attributed to at least one side of the multilayer structure.

**(7) *Argument***

Appellant's brief includes arguments as set forth in 37 CFR 41.37(c)(1) and (c)(vii).

**(8) *ClaimsAppealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

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**(9) Prior Art of Record**

6500518	SUGAWA et al.	12-2002
6136444	KON et al.	10-2000
6261664	BESSON et al.	07-2001

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 4-5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,500,518 to Sugawa et al.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims differ only in the recitation of the surface roughness values of 0.8 nm and 0.2 nm or lower is an obvious difference. Patent '518 to Sugawa provides in patented claim 1 the limitation that claims a smooth surface. While the roughness value of

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0.8 nm is not claimed, it is considered inherent since the same epoxy resin is used in the same manner. Further, as evidenced at col. 3, line 40, the smooth surface exhibits a surface roughness value taught within the range of 0.02 micrometers or less, falling within Appellant's range of 0.8 nm and 0.2 nm or lower. The sheet of Sugawa is a functional equivalent to a "liquid-crystal cell substrate" because the same materials are provided. Further at col. 7, lines 1-10, the substrate can be used for liquid crystal cell substrates.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the Appellant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the Appellant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3-6 (amended) are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,500,518 to Sugawa et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Sugawa teaches an epoxy optical sheet having a thickness of 500 micrometers or less (falling within Appellant's range of an average thickness of from 100 to 800 and 200 to 500 micrometers of instant claims 1 and 5). The sheet is epoxy (8), is a multilayer structure, and has a smooth surface such as a roughness Ra of 0.02 micrometers or less (meeting Appellant's range of 0.8 and 0.2 nm or lower of instant claims 1 and 4). See col. 3, ll 1-8, ll 30-68, col. 4, ll 3-45. The epoxy resin includes specific resins such as bisphenol A at col. 4, ll 47-50 (to instant claim 6). A layer of a cured epoxy resin as a base layer is also provided (see (62) of Figure 1 and col. 2, l 42). The sheet of Sugawa is a functional equivalent to a "liquid-crystal cell substrate", because the same materials are provided and the use of such substrate as a "liquid-crystal cell substrate", affords no patentable weight as it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Further at col. 7, lines 1-10, the substrate can be used for liquid crystal cell substrates. Regarding the limitation to "the multilayer structure comprises a layer of a cured epoxy resin as a base layer", Sugawa also provides. Appellant teaches the epoxy is (7) in Figure 1 of the instant disclosure being an outer layer, and Sugawa teaches (62) as an outer cured epoxy layer. Thus the cured epoxy resin functions as a base layer. See col. 2, lines 40-53.

Regarding claim 3, Sugawa further teaches the epoxy resin layer can be laminated by coating over a gas barrier of PVA resin and forming the PVA gas barrier on a urethane resin layer. The urethane resin layer is hardened by light irradiation e.g. UV lamp (col. 4, line 31-32) (equivalent to transparent hard coat layer). Such description forms the multilayer structure of

instant claim 3. The thickness of each resin layer discussed above is disclosed at col. 4, line 39, teaching a range from 1 to 10 micrometers, falling within Appellant's range of 0.1 micrometers or larger.

Claims 1 and 3-5 (amended) stand rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,136,444 to Kon et al..

Kon teaches a multilayer resinous structure having a transparent plastic substrate of a thickness between 70 and 200 micrometers at col. 17, ll 55-64 (falling within Appellant's range of an average thickness of from 100 to 800 and 200 to 500 micrometers of instant claims 1 and 5). The transparent plastic substrate has a surface roughness Ra of 1 nm or less at col. 18, ll 35-43 (meeting Appellant's range of 0.8 and 0.2 nm or lower of instant claims 1 and 4). Regarding instant claim 2, a base cured epoxy layer is also taught by Kon as layer (7) as a solvent-resistant radiation curing layer see Example 4-col.28, lines 36-38. See also col. 20, ll 30-50 providing for the structure including various multilayer components. The sheet of Kon is a functional equivalent to a "liquid-crystal cell substrate", because the same materials are provided and the use of such substrate as a "liquid-crystal cell substrate", affords no patentable weight as it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Further Kon teaches the invention used in liquid crystal displays just as Appellant describes a "liquid cell substrate" to be formed and used (page 12, 1<sup>st</sup> complete paragraph). See also col. 21, lines 55-col. 22, line 26. To claim 3, a PVA based gas barrier (4) is disclosed in Figure 4 between epoxy (8) and transparent polycarbonate (1) (transparent hard coat). Polycarbonate (1) is heated, includes

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bisphenol A, and is between 70-20 microns thick, thereby producing a hard layer. See col. 18, lines 5-10 and 20-26. The thickness of (1) is between 70 and 200 microns, falling within Appellant's range of 0.1 microns or larger at col. 20, lines 30-40 also. The Ra surface roughness of (1) is 1 nm or less on the air side (also falling within Appellant's range of 0.8 nm or lower on one side) at col. 18, line 37.

Regarding the limitation to "the multilayer structure comprises a layer of a cured epoxy resin as a base layer", Kon also provides. Appellant discloses the epoxy is (7) in Figure 1 of the instant specification being an outer layer, and Kon teaches 9 and 8 as outer layers above the substrate of polycarbonate. See Figures 3 and 4 of Kon. Thus, the cured epoxy resin functions as a base layer. See col. 15, lines 3-18.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,136,444 to Kon et al. in view of USPN 6,261,664 to Beeson et al.

Kon is relied upon above. Kon does not teach an epoxy of bisphenol A type. The invention of Beeson is directed to an optical light diffusion multilayered transparent support. At col. 4, ll 59-60, Beeson teaches a uniform (average) thickness of 0.2 to 2 mm, within the claimed

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range of 100 to 800 micrometers. The photopolymerizable material layer is of cured epoxy deposited on a substrate, where the epoxy is deemed equivalent to Appellant's base layer as the epoxy layer of Beeson is an outermost layer as well. See col. 3, ll 50-60, col. 4, ll 12-25, and Figures 1-2. Both Kon and Beeson are involved in the same technical field such as optical films, thereby providing a *prima facie* case of obviousness. It would have been obvious to one of ordinary skill in the art to include a bisphenol epoxy because Beeson teaches it is conventional to use in optical films as cited above.

**(11) Response to Argument**

Appellant argues that the Examples of Sugawa '518 does not claim a range of 0.8 nm or lower and that the examples of '518 does not measure surface roughness of either the support or the surface of the resin layer. The Examiner upholds the Double Patenting and 102(e) rejection over Sugawa because patented claim 1 teaches the same epoxy base, thickness range, and claims the sheet is smooth. "Smooth" is interpreted in light of the specification, which Appellant agrees is 0.02 micrometers or less (20 nm or less) explicitly taught at col. 3, lines 40-41 equating the roughness to the smoothness of a mirror (same as Appellant's teaching within the instant disclosure at page 4, line 2 and page 6, second paragraph). This range is encompassed by Appellant's claimed range. Appellant has not claimed a "much narrower" claimed range as alleged as zero is included in "or less/lower". Appellant alleges it is improper for the Examiner to look outside the claims by attempting to define the "smooth surface" language of Claim 1 of '518 in the specification when the specification itself does not explicitly set out a definition for the term. Appellant is reminded that MPEP 804 states the contrary: The specification can always

be used as a dictionary to learn the meaning of a term in the patent claim. In re Boylan, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968).

Appellant argues that Sugawa '518 does not teach 0.8nm or lower, but teaches an epoxy sheet having a mirror surface using a support with a surface roughness (Ra) of 0.02 microns or less at Sugawa col. 3, lines 38-40. However, this teaching of the process is the same teaching as Appellant's specification on page 6, second paragraph stating "It is also preferred to use a support having a surface roughness Ra of 0.02 gm or lower from the standpoint of transferring the surface state of the support to obtain a resin layer having excellent smoothness reflecting the support surface." Thus, this relation proves the exact same process (using a 0.02 micron support to make the epoxy layer of the multilayer structure, airside) is used to make the same product and thus would naturally have the same Ra range.

Appellant argues that there is a significant difference between achieving a "smooth surface" of around 0.02 microns or less on the support of Sugawa and achieving a significantly lower, narrower, Ra range of 0.8 nm or less. The Examiner understands the difference, namely to the upper limit, however it is not a patentable difference because the ranges overlap as Sugawa '518 teaches 0.02 microns or less, which includes zero just as Appellant's 0.8 nm or lower includes zero. Appellant further argues that Sugawas' surface measurement was taken for the support which says nothing about surface rougness of at least one side of the multilayer structure according to the present invention. However, Appellant has not provided a convincing argument because the same support having the same Ra of 0.02 microns is adjacent to the same epoxy layer, where the epoxy layer is on the same airside, the property thus transfers to at least one side of the multilayered structure as the epoxy is structured in the same way as Appellant's instant

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invention and as Appellant explains on page 6, 2<sup>nd</sup> complete paragraph of the instant disclosure. Because the same process, structure, and materials are employed, it must have the same inherent features.

Appellant argues that Sugawa's Claim 1 is directed to an "epoxy optical sheet" instead of a "liquid-crystal cell substrate" and alleges it would not likely exhibit good performance and would likely exhibit light leakage. Appellant has not made a persuasive argument because the same essential elements are included, thus, despite the naming of the article made, the end product is the same. Further Appellant has not presented objective evidence to show that the epoxy sheet is would not perform good.

Appellant argues that Sugawa does not teach the claimed range of 0.8 nm or lower pointing to the table submitted in the Brief. Appellant points to the teaching of 0.02 micrometers (0.2 nm) or less achieving a "smooth" surface but argues this teaching is significantly different from 0.8 nm or lower because Appellant alleges the claimed range is lower despite the use of epoxy.

Appellant argues Sugawa does not teach the surface roughness because of a thickness precision. However, thickness precision is not claimed. Again, the support is used in the process of making the sheet and col. 3, lines 36-45 explain that in order to obtain a smooth surface, the thickness accuracy is kept at a minimum by using the support to form either the resin layer or hardened sheet.

Appellant argues that Sugawa's epoxy sheet should be interpreted by using a method using an easily peelable resin layer on a support and spreading in a sheet to form a resinous coating fluid and points to pages 3-4 of the instant disclosure. Appellant further alleges that

Sugawa's different starting conditions would fail to achieve Appellant's claimed invention.

However, a method of making is not claimed.

Appellant argues a "liquid cell substrate" and that this name is to the use of the claimed substrate as a liquid crystal cell substrate and points to Examples within the Specification. However, this new name does not differentiate from the Prior Art of record because the same materials, roughness values, and thicknesses are provided for. Both Sugawa and Kon clearly teach the use of the resinous substrate as a liquid crystal display and forms liquid crystal cell substrates using liquid crystals as Appellant as aforementioned above. See col. 1, line 15, Kon.

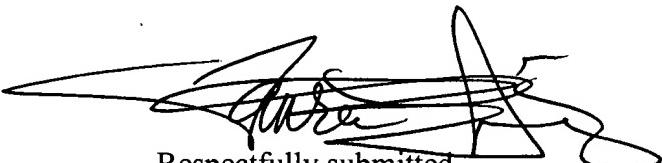
Appellant argues the 102(e) based on Kon, alleging Kon does not describe the surface roughness of the uppermost layer. However, Appellant appears to not have considered the explicit teaching at col. 18, lines 36-40 teaching the aforesaid property is indeed on the uppermost layer- the "air side", which is the same "air side" as Appellant shows in the disclosure (Figure 1, layer). Appellant argues Kon does not teach the epoxy as a base, however, Appellant teaches the epoxy is (7) in Figure 1 of the instant disclosure being an outer layer, and Kon teaches 9 and 8 of the same epoxy as outer layers above the substrate of polycarbonate. See Figures 3 and 4 of Kon. The structure of an embodiment of Kon (Fig. 3) is in this order: cured epoxy 8 /PVA (g) barrier 4 / transparent plastic 1. See col. 15, lines 2-20. The same structure is provided, data within the same range, and the same materials, thus the invention is taught by Kon. Kon teaches a surface roughness value of 1 nm or less (col. 18, line 37) and 0.5 nm (Example 1) on the air side, which meets "at least one side" and is within Appellant's range 0.8 nm or less. Appellant alleges Kon is silent about using epoxy resin as a base. However, the Appellant is directed to col. 15, line 17 and Fig. 3 explicitly showing epoxy used as a base.

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Appellant argues that Kon is silent about any effect on durability. Applicant has not claimed a durable value or degree.

Appellant argues the 103 over the use of Kon and Beeson. Appellant alleges that Kon does not teach the use of a cell substrate. However, as set forth above, Kon teaches the same materials, thickness and roughness properties as claimed (see also col. 24, line 12, Figure 4 and associated text). Kon teaches bisphenol A in Example 1, col. 23, line 66, but does not say it is an epoxy resin. Beeson is an optical structure just as Kon, and Beeson is merely used to teach bisphenol A is conventional to add.

For the above reasons, it is believed that the rejections should be sustained.

  
Respectfully submitted,

Tamra L. Dicus  
Examiner  
Art Unit 1774

[tld]  
August 10, 2005

  
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